

Amendments to the Claims

Claims 1-11. (Cancelled.)

12. (Currently Amended) A fuel cell comprising:

an electrolyte membrane comprising a membrane support structure comprising bacterial cellulose;

an anode disposed on one side of the electrolyte membrane; and

a cathode disposed on an opposite side of the electrolyte membrane,

wherein at least one of the anode and the cathode comprises an electrode support structure comprising bacterial cellulose, and a metal catalyst disposed in or on the electrode support structure, the metal catalyst being disposed in or on the electrode support structure by placing the electrode support structure in a solution of a metal salt for a sufficient time period such that the metal salt is reduced to metallic form and the metal catalyst precipitates in or on the electrode support structure, and

wherein each anode or cathode comprising an electrode support structure comprising bacterial cellulose is held together to the electrolyte membrane by hydrogen bonds.

13. (Original) The fuel cell of claim 12 wherein:

the catalyst is selected from platinum group metals.

14. (Original) The fuel cell of claim 12 wherein:

the catalyst is palladium.

15. (Previously Presented) The fuel cell of claim 12 wherein:

a metal salt is disposed in or on the membrane support structure.

16. (Previously Presented) The fuel cell of claim 12 wherein:

a sulfonated polymer is disposed in or on the membrane support structure.

Claims 17-20. (Cancelled.)

21. (Previously Presented) The fuel cell of claim 12 wherein:

the electrode support structure is dehydrated after the metal catalyst is disposed in or on the electrode support structure.

22. (Previously Presented) The fuel cell of claim 12 wherein:

the membrane support structure is dehydrated.

23. (Previously Presented) The fuel cell of claim 12 wherein:

the anode and the cathode comprise an electrode support structure comprising bacterial cellulose, and a catalyst disposed in or on the electrode support structure.

24. (Previously Presented) The fuel cell of claim 12 wherein:

the metal salt is a coordination compound including a platinum metal group complex ion.

25. (New) The fuel cell of claim 23 wherein:

the anode is held together to the electrolyte membrane by hydrogen bonds and the cathode is held together to the electrolyte membrane by hydrogen bonds.